DOCUMENT RESUME

ED 027 020 JC 690 077

By-Pearce, Frank C.
Report on Faculty Load and Faculty Projections.
San Mateo Coll., Calif.
Report No-CSM-RR-1969-1
Pub Date 1 Feb 69
Note-24p.
EDRS Price MF-$0.25 HC-$1.30
Descriptors-Enrollment Projections, *Enrollment Trends, *Junior Colleges, *Teacher Placement, *Teacher Supply and Demand, *Teaching Load
Identifiers-*California

To determine San Mateo Junior College District's 1969-70 needs for additional instructors and the number of student-contact hours to be assigned to each, a survey was made of the district's practices during the preceding two years. The report is based on the assumption that the number of student-contact hours should vary by subject in each of the instructional divisions. Tables show the number of student-contact hours for each subject, the number of faculty teaching full-time, and the number of weekly student-contact hours for each full-time faculty member at the district's two colleges: San Mateo and Canada. With a new junior college opening in the autumn of 1969, faculty needs were tabulated on the basis of anticipated student enrollments at the three colleges, student transfers to the new college, and faculty transfers to the new college. (DG)

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REPORT
ON FACULTY LOAD
AND FACULTY PROJECTIONS

College of San Mateo

Research Report 1969-1

Prepared by:

Frank C. Pearce
Office of Research
February 1, 1969

UNIVERSITY OF CALIF.
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A REPORT ON FACULTY LOAD AND FACULTY PROJECTIONS

This report should provide a basis for discussing teacher load and determining the number of instructors needed in the San Mateo Junior College District during 1969-70 school year. Information is provided and questions are raised, but no attempt is made to provide a "best" answer.

PART I - Teacher Load

The question, "What is a reasonable teaching load?" has been the subject of a great deal of discussion in all educational institutions. This discussion can be expected to continue until someone finds a way to accurately assess the quality component of teaching. One can identify the various tasks performed by an instructor, determine the proportion of an instructor's time that is devoted to each task, and over a period of time one can develop a quantitative description of load for instructors in a given discipline. Such a description assumes an equal amount of effort, motivation, ability or quality, etc., of instructors; but such an assumption simply cannot be supported. Some measures have been developed to measure certain aspects of quality, such as the degree of interaction between student and teacher; but until a comprehensive means is developed, the discussion of "reasonable load" will continue.

At the present time, the San Mateo Junior College District uses a quantitative measure based upon hours spent with the class in a lecture or laboratory situation in a particular discipline. The method has been evolved over a number of years and has been revised periodically as inequalities became apparent. Basically, the system can be described as a "restrictive patchwork." If a given discipline can support a change in teaching load based on common sense, logic, or by comparison of load with some other district, then the definition of load may be revised. This patchwork attribute eliminates any prospect of a "status quo" condition, which would seem desirable. But the basis for change can be subject to considerable variation because of the subjective judgment that must be rendered to evaluate the reason for change. The method would seem to be restrictive in terms of teaching methodology since the traditional lecture-laboratory session in a designated space must be adhered to or an instructor would lack sufficient teaching units to constitute a full load. Specifically, very small classes (10 - 15 students), very large classes (100 - 200 students), individual instruction, the use of multimedia for instructional aids, open ended classes that take more or less than one semester to complete, or other structional changes required to use any different teaching methodology are difficult to accommodate under the present system.

It may also be suggested that the concept of college autonomy in educational practices within the district will be difficult to achieve if all colleges are forced to use the present system of determining teacher load. Lack of autonomy in this regard is a very real possibility since load means dollars and the district dollars are in short

supply. In view of these concerns, another way of determining teacher load should be considered.

Another approach to load could be based upon the individual student and the amount of time he spends with his instructor--the number of contact hours each week. If this were done, the teacher's load figure would still be subject to periodic examination, modification, and a patchwork condition. At the same time, it does not adequately account for teaching quality; but it would seem to facilitate the opportunity for changing teaching methodology more readily. Thus, the capability for improving the quality of instruction would be more readily available and the apparent restrictions of the present system could be overcome.

The first step is establishing teaching load according to student contact hours is provided in Tables A and B that follow.

TABLE A TEACHER LOAD AT COLLEGE OF SAN MATEO

S U B J E C T	Student Contact Hours		Full-time Faculty		Ratio - SCH/FTE	
	1967	1968	1967	1968	1967	1968
Business Division						
Accounting	2555	2145	5.00	4.34	511	494
Commercial Law	327	312	.60	.60	545	520
General Business	4189	4159	8.94	8.06	469	516
Mathematics	1657	1344	3.19	2.59	519	519
Shorthand	1457	1380	2.67	2.80	546	467
Typing	2160	1600	3.27	2.51	661	637
Subtotal	12,345	10,940	23.67	20.90	522	523
English Division						
Composition (1A, 1B, A)	10,484	9599	24.00	22.00	437	436
Composition (50, 57)	6639	6739	12.50	14.43	531	467
Journalism	498	331	1.53	.93	325	356
Literature	1247	1330	2.46	2.33	507	571
Reading	1920	2115	4.21	4.00	456	529
Speech	1524	1579	3.80	3.87	401	408
Subtotal	22,312	21,693	48.50	47.56	460	456
Fine Arts Division						
Art	4562	3985	9.46	8.80	482	453
Drama	1055 *	2853	3.40	3.23	310 *	883
Music	2595	2660	5.26	6.27	493	424
Subtotal	8212	9498	18.12	18.30	453	519
* Excludes hours by arrangement						
Foreign Language Division						
French	1529	1463	3.73	3.40	410	430
German	1006	867	3.20	2.40	314	361
Russian	264	264	.80	.67	330	394
Spanish	2079	1829	5.40	4.60	385	398
Subtotal	4878	4423	13.13	11.07	372	399
Health Occupations						
Dental Assisting	1284	1116	2.40	2.13	535	524
Nursing (R.N.)	1258	2319	5.00	6.75	252	344
Nursing (L.V.N.)	1560	1429	4.00	4.00	390	357
Subtotal	4102	4864	11.40	12.88	360	378

TABLE A (Continued) TEACHER LOAD AT COLLEGE OF SAN MATEO

S U B J E C T	Student Contact Hours		Full-time Faculty		Ratio - SCH/FTE	
	1967	1968	1967	1968	1967	1968
Life Science Division						
Anatomy	835	920	2.00	2.00	417	460
Bacteriology	287	298	.67	1.00	428	298
Biology/General	5459	5374	10.07	9.03	542	595
Botany-Forestry	564	702	.87	1.40	648	501
Health	1404	924	1.60	1.44	878	642
Zoology	516	627	1.66	1.33	311	471
Subtotal	9065	8845	16.87	16.20	537	546
Math-Engineering						
Architecture	897	727	2.27	1.87	395	389
Engineering	1167	740	2.60	1.80	449	411
Mathematics	6174	5555	13.47	11.66	458	476
Subtotal	8238	7022	18.34	15.33	449	458
Physical Education	16,472	15,224	23.36	21.82	705	698
Physical Science Division						
Astronomy	986	958	1.27	1.27	776	754
Chemistry	5221	4281	10.01	8.64	522	495
Geology	1344	896	2.05	1.53	656	586
Physical Science	549	588	.60	.73	915	805
Physics	2194	2101	4.00	3.82	549	550
Subtotal	10,294	8824	17.93	15.99	574	552
Social Science Division						
Anthropology	756	806	1.13	1.13	669	713
Economics	2133	1924	3.67	3.47	581	554
Education	426	458	.67	.67	636	683
Geography	893	417	1.73	.80	516	521
History	8694	8262	13.80	13.60	630	608
Philosophy	2532	2531	4.20	3.60	603	703
Political Science	4443	4625	6.93	7.33	641	631
Psychology	6505	5935	10.40	9.60	625	618
Sociology	1239	1259	1.80	2.00	688	630
Subtotal	27,621	26,217	44.33	42.20	623	621

TABLE A (Continued) TEACHER LOAD AT COLLEGE OF SAN MATEO

S U B J E C T	Student Contact Hours		Full-time Faculty		Ratio - SCH/FTE	
	1967	1968	1967	1968	1967	1968
Technical Division						
Aeronautics	3887	4447	7.80	9.00	498	494
Data Processing	1472	1413	2.73	2.99	539	473
Drafting	1664	1890	3.95	4.21	421	449
Electronics	2847	3605	6.07	6.73	469	536
Machine Tools	1044	816	2.13	2.07	490	394
Manufacturing	292	384	.80	.80	365	480
Tech. Illustration	447	666	1.00	1.93	447	345
Technology	912	612	2.06	1.40	443	437
Telecommunications	826	552	2.20	.87	375	634
Welding	534	531	1.46	1.53	366	347
. Subtotal	13,925	14,916	30.20	31.53	461	473
Student Services						
Guidance	930	839	1.33	1.20	699	699
Vocational Division						
Cosmetology	2079	2597	4.83	6.00	430	433
Home Economics	1181	1161	2.80	2.07	422	561
Horticulture	269	140	.40	.53	672	283
Police Science	1029	1030	1.79	1.66	575	620
Subtotal	4558	4928	9.82	10.26	464	480
Grand Total	142,907	138,233	277.00	265.25	516	521

TABLE B TEACHER LOAD AT CAÑADA COLLEGE

S U B J E C T	Student Contact Hours	Full-time Faculty	Ratio - SCH/FTE
Business Division			
Accounting	430	1.00	430
Commercial Law	126	.20	630
General Business	663	1.56	425
Math	381	.78	488
Shorthand	235	.91	258
Typing	465	.75	620
Subtotal	2300	5.20	442
English			
Composition	2183	5.83	375
Reading Composition	1733	3.70	468
Journalism	135	.60	225
Literature	303	.63	481
Reading Skills	430	.67	645
Speech	411	1.21	338
Subtotal	5195	12.64	411
Fine Arts			
Art	1161	2.00	581
Drama	437	1.28	340
Music	824	2.21	373
Subtotal	2422	5.49	441
Foreign Language	921	3.67	252
Guidance	283	1.00	283
Life Science			
Anatomy	174	.41	425
Bacteriology	90	.19	480
Biology	1137	2.00	569
Botany-Forestry	450	.81	556
Genetics	96	.22	436
Health	590	.67	885
Zoology	234	.73	320
Subtotal	2771	5.03	551
Mathematics	1137	3.27	348
Physical Education	2898	5.21	556

TABLE B (Continued) TEACHER LOAD AT CAÑADA COLLEGE

S U B J E C T	Student Contact Hours	Full-time Faculty	Ratio - SCH/FTE
Physical Sciences			
Astronomy	168	.20	840
Chemistry	957	1.69	666
Geology	222	.77	288
Physical Science	171	.21	789
Physics	240	.56	428
Subtotal	1758	3.43	513
Social Sciences			
Anthropology	294	.40	736
Economics	396	.80	495
Education	88	.13	662
Geography	357	.43	830
History	2113	3.40	620
Philosophy	369	.60	615
Political Science	1260	2.13	593
Psychology	1521	2.40	635
Sociology	381	.60	635
Statistics	45	.20	225
Subtotal	6824	11.09	615
Vocational			
Home Economics	479	1.13	424
Food Technology	202	1.47	137
Police Science	288	.60	480
Subtotal	969	3.20	303
Grand Total	27,478	59.23	464

The format of the tables was based upon the assumption that the number of student contact hours should vary by subject in each of the instructional divisions; that is, the number of student contact hours for an instructor in English 1A should be different from the number for an instructor in physical education since the teacher work load per student would not be the same. Tables A and B show the number of student contact hours for each subject, the number of faculty teaching full time, and the number of weekly student contact hours for each full-time faculty member. Table A, which concerns College of San Mateo, provides these figures for the fall semesters 1967 and 1968; and Table B, concerning Cañada, is based upon fall semester, 1968 only. These time periods were selected because staffing patterns are based upon initial enrollment rather than the expectation that students will drop out of college.

Essentially, this is an attempt to examine what has been done in the district over the past two years. One cannot simply accept these figures as provided since they infer that conditions over the past two years were typical in the San Mateo Junior College District. Examination of these tables show that the differences between the two colleges and between the fall semesters of 1967 and 1968 are generally too great to be attributed to chance alone. The causes of these differences are apparent; but even with these differences, the figures do provide a beginning point for establishing a given number of student contact hours as a reasonable load in accounting, speech, French, etc. It should also be noted that a teaching load study at other Northern California junior colleges will provide similar figures for comparison purposes and the results of this study are currently available.

In addition to judging the adequacy of the various ratios that are reported, the reader may also be interested in knowing that the present system apparently perpetuates conditions that would seem to cause inequalities. For example, one instructor teaching a given subject or subjects which are precisely the same as those taught by another instructor may be serving twenty, forty or sixty more students

than his colleague. Then again, instructors in two different subjects which would seem to require similar efforts may be serving a very dissimilar number of students.

Another difficulty apparent in the current unit-load system is that some instructors carry a very large number of one- or two- unit courses in order to have a full-time load, and a colleague in the same department with a full load actually assists considerably fewer students. The discrepancy in this regard can only be described as huge. A corollary at this point is the instructor whose load consists primarily of the introductory courses, who works with a much larger number of students than a colleague in his department who teaches few such courses.

The points mentioned above are intended as criticisms of the present system; however, they represent no call for a "witch hunt." This would not only be inappropriate, but would fail to recognize that the present system can be used to evolve a different procedure that may be more functional and equitable. It is the contention of this report that the present system can be improved and needs to be improved.

In arriving at a load figure that seems reasonable, a procedure similar to the following might be used. In 1967 the student contact load in accounting classes at College of San Mateo was 511; in 1968 it decreased slightly to 494. Based on these figures, one could say the average was approximately 500, and that each accounting instructor would be teaching the same number of students (within 10) as any other accounting instructor. Ten students in accounting generate 50 student contact hours; therefore, each instructor would have no fewer than 450 and no more than 550 student contact hours. This could also be accomplished statistically by establishing one standard deviation from the mean (or one-half standard deviation, etc.) as being a normal load, which would provide a range in accounting at one standard deviation of 450 to 550 or 475 to 525 at one-half standard deviation.

It will be apparent to those who follow this example closely that some guidelines to ensure educational quality would be needed.

To use a gross example, no one could simply meet with all of his students one hour each week. Sound educational practices would continue to be the concern of instructors, division chairmen, the Committee on Instruction, and the administration in implementing any change in the correct load procedure.

PART II - Faculty Projections

With the opening of Skyline College next fall and Cañada College in its second year of operation, it can be anticipated that enrollment at all three colleges will change next year; consequently, the number of faculty needed by each college will change because enrollment determines the number of staff members that will be needed.

The number of students who enroll next fall will be influenced by a variety of conditions; foremost among these are the following:

1. Cañada will be in its second year of operation and the experience of other junior colleges suggests that enrollment will be higher than expected. For example, an increase of 11 percent can usually be anticipated in the San Mateo Junior College District; but past experience indicates that during the second year of operation of a new college in a district, an increase of 20 to 30 percent in enrollment at that college has actually occurred. Thus, the 1968 enrollment at Cañada of 2,000 students can be expected to increase between 400 and 600 students.

2. Skyline College will be opening in an area where the San Mateo Junior College District traditionally has not drawn large numbers of students. Because of the proximity of this college to such students, it seems reasonable to expect that Skyline will attract a number of students who would not have gone to college in the past. At the same time, operating efficiency dictates that Skyline will open with at least 2,000 students.

3. The proportion of Freshman students who choose to continue a second year at junior college is increasing. Enrollment at College of San Mateo this year was higher than anticipated, for example, and for the most part these were continuing students. In the past, apparently these same students went to four-year colleges. It would seen that increase in continuing students is due, in part, to the unwillingness of four-year colleges to accept students who have not completed two years of junior college.

4. It is not known at this time whether four-year colleges in our service area will be forced by financial limitations to admit fewer high school graduates. This has already been suggested by several of the four-year colleges in Southern California. If this were to occur here, it is possible that approximately 300 more students would enroll in the district.

5. Other considerations that could influence enrollment to some degree include: student response to special programs such as the College Readiness Program--Automotive Technology at Skyline College or Food Technology at Cañada College; and changes in Board policy; or changes in the national policy relating to the draft.

There are several ways one can project next year's enrollment based on the above factors. One way is to consider last year's enrollment, increase it by 11 percent, add the Cañada influence and the possibility that a number of high school graduates accepted by State colleges will be reduced, resulting in a total of 12,300 students expected for fall 1969. Another approach is to simply assume last year's history will repeat itself and a total of 12,123 students could be expected for fall 1969. A third approach would be to (a) consider the number of high school graduates we have attracted over the past five years plus graduates from outside the County, and (b) the proportion of continuing students who can be expected to return plus special and other students; and on the basis of a straight line projection about 11,700 students could be expected plus 700 from the two sources (a and b) mentioned above for a total of 12,400 students. A fourth method of projecting enrollment is to take the weekly student credit hours as of the first attendance week in 1966 and 1967, assuming a linear relationship, project 11,571 students plus 700 students from the two sources (a and b) mentioned above for a total of 12,271 students.

Essentially, these projections suggest that 12,100 to 12,400 students can be expected to enroll in the San Mateo Junior College District in fall semester, 1969. Based upon the assumption that it is better to be slightly understaffed than over staffed since it is easier to add staff, if necessary, than reduce staff; it is estimated that staffing should be accomplished to accommodate 12,100 students.

This enrollment would be distributed to allow 2,000 students at Skyline, 2,500 at Canada, and 7,600 at San Mateo. The 2,000 students at Skyline are considered necessary for an efficient educational operation. Enrollment of 2,500 at Canada seems realistic based upon past experience, and approximately 7,600 may be expected to enroll at College of San Mateo. It may also be noted that these figures are representative of the Entitlement IV application and the Ten Year Master Plan.

It will be noted that these projections suggest a reduction in teaching faculty at College of San Mateo and an increase in faculty at Canada and Skyline colleges. The usual method of accomplishing these changes involves a detailed review of courses by division chairmen in concert with the administration to decide where their best judgment indicates changes can be made. As a comparison point for this process, a somewhat different procedure is presented through Tables C, D, and E. This procedure takes into account student enrollment converted to student contact hours as well as prior teaching load as shown in Tables A and B.

It is assumed that the above student projections are reasonably accurate and that the ratio of student contact hours per full-time

instructor is reasonable. Obviously, if the ratio were lowered (as could occur at Skyline and Cañada), more teachers would be needed; and conversely, if the ratios are raised, fewer teachers would be needed. Projections provided in these tables are simply guidelines and will require evaluation based on experience.

Table C suggests that approximately 35 less full-time teachers will be required at the College of San Mateo in 1969. For example, the Business Division would require 2.6 less full-time teachers, or a reduction of approximately 39 teaching units, resulting in the elimination of approximately 11 sections in business courses. In general business courses by 5 sections, business mathematics by 1 section, shorthand by 1 section, and typing by 1 or 2 sections. Another example is the Physical Education Division, which could be reduced by 3.2 full-time instructors, or 47 teaching units under the present system, resulting in a decrease of 59 sections (1.25 teaching units per two-hour, 1/2-unit class). Therefore, the number of sections eliminated will vary according to the number of teaching units each eliminated section contains.

Table D for Cañada College is based on the current year's experience, which would be considered atypical for some subjects. In effect, the current load may be too low or too high. In any event, Cañada College should plan to add approximately 23 more full-time instructors to teach 251 units, or about 137 sections in fall 1969. It should be noted, however, that the student load at Cañada College is relatively low compared to College of San Mateo and if the load at Cañada is increased somewhat, then the number of additional instructors required will be reduced accordingly.

Table E provides projections for Skyline College and has been based wholly on the experience of Cañada College. The projection of student contact hours assumes an enrollment of 2,000 students at 15.5 contact hours each; however, Cañada College, which enrolled that number of students, dropped to about 28,000 contact hours by the first attendance week. Initially, a staffing pattern of approximately 60 instructors would seem realistic for Skyline College.

Finally, it is apparent that some instructors will choose to transfer from San Mateo College to Cañada or Skyline. It may be necessary to transfer other instructors, however, and some system to ensure an equitable distribution should be developed. In effect, the San Mateo Junior College District can be expected to require 50 additional full-time teachers in 1969, but not all of those instructors will be new to the district.

TABLE C FACULTY PROJECTIONS FOR COLLEGE OF SAN MATEO

SUBJECT AREA	Student Contact Hours			Full-time Faculty		Change	
	Current	Projected	Ratio	Current	Projected	Units	Sections
Business							
Accounting	2145	1829	494	4.34	3.7	-9	-2
Business/General	4471	3815	519	8.66	7.3	-15	-5
Mathematics	1344	1148	519	2.59	2.2	-4	-1
Shorthand	1380	1176	467	2.80	2.5	-5	-1
Typing	1600	1362	637	2.51	2.1	-6	-2
Subtotal	10,940	9330	523	20.90	18.3	-39	-11
English							
Composition (1A, 1B, A)	9599	8166	436	22.00	18.7	-50	-17
Composition (50,57)	6739	5747	467	14.43	12.3	-31	-10
Journalism	331	283	356	.93	.8	-1	-0-
Literature	1330	1127	571	2.33	2.0	-5	-2
Reading Skills	2115	1811	529	4.00	3.4	-9	-1
Speech	1579	1349	408	3.87	3.3	-9	-3
Subtotal	21,693	18,483	456	47.56	40.5	-105	-33
Fine Arts							
Art	3985	3404	453	8.80	7.6	-17	-6
Drama	2853	2427	883	3.23	2.7	-8	-3
Music	2660	2262	424	6.27	5.3	-15	-5
Subtotal	9498	8093	519	18.30	15.6	-40	-14
Foreign Language							
French	1463	1249	430	3.40	2.9	-8	-2
German	867	742	361	2.40	2.0	-6	-2
Russian	264	224	394	.67	.6	-1	-0-
Spanish	1829	1555	398	4.60	3.9	-10	-3
Subtotal	4423	3770	399	11.07	9.4	-25	-7
Health Occupations							
Dental Assisting	1116	954	524	2.13	1.8	-4	-1
Nursing (A.A.)	2319	1979	344	6.75	5.8	-15	-3
Nursing (L.V.N.)	1429	1213	357	4.00	3.4	-9	-0-
Subtotal	4864	4146	378	12.88	11.0	-28	-4

TABLE C (Continued) FACULTY PROJECTIONS FOR COLLEGE OF SAN MATEO

SUBJECT AREA	Student Contact Hours			Full-time Faculty		Change	
	Current	Projected	Ratio	Current	Projected	Units	Sections
Life Science							
Anatomy	920	789	460	2.00	1.7	-5	-1
Bacteriology	298	259	298	1.00	.9	-1	-0-
Biology/General	5374	4571	595	9.03	7.7	-20	-7
Botony-Forestry	702	601	501	1.40	1.2	-3	-1
Health	924	789	642	1.44	1.2	-3	-1
Zoology	627	530	471	1.33	1.1	-3	-1
Subtotal	8845	7539	546	16.20	13.8	-35	-11
Math-Engineering							
Architecture	727	624	389	1.87	1.6	-3	-1
Engineering	740	636	411	1.80	1.5	-4	-1
Mathematics	5555	4725	476	11.66	10.0	-25	-8
Subtotal	7022	5985	458	15.33	13.1	-32	-10
Physical Ed.	15,224	12,970	698	21.82	18.6	-47	-59
Physical Science							
Astronomy	958	813	754	1.27	1.1	-3	-1
Chemistry	4281	3651	495	8.64	7.4	-18	-5
Geology	896	766	586	1.53	1.3	-3	-1
Physical Science	588	495	805	.73	.6	-1	-0-
Physics	2101	1791	550	3.82	3.2	-9	-3
Subtotal	8824	7516	552	15.99	13.6	-34	-10
Social Sciences							
Anthropology	806	683	713	1.13	1.0	-2	-1
Economics	1924	1637	554	3.47	3.0	-7	-2
Education	458	389	683	.67	.6	-1	-0-
Geography	417	353	521	.80	.7	-1	-0-
History	8262	7045	608	13.60	11.5	-31	-10
Philosophy	2531	2168	703	3.60	3.1	-7	-2
Political Science	4625	3946	631	7.33	6.2	-16	-5
Psychology	5935	5054	618	9.60	8.2	-21	-7
Sociology	1259	1072	630	2.00	1.7	-4	-1
Subtotal	26,217	22,347	621	42.20	36.0	-90	-28
Technical							
Aeronautics	4447	3793	494	9.00	9.0	-0-	-0-
Data Processing	1413	1202	473	2.99	2.5	-6	-2
Drafting	1890	1614	449	4.21	3.6	-9	-2

TABLE C (Continued) FACULTY PROJECTIONS FOR COLLEGE OF SAN MATEO

SUBJECT AREA	Student Contact Hours			Full-time Faculty		Change	
	Current	Projected	Ratio	Current	Projected	Units	Sections
Electronics	3605	3075	536	6.73	6.7	-0-	-0-
Machine Tools	816	695	394	2.07	2.1	-0-	-0-
Manufacturing	384	330	480	.80	.8	-0-	-0-
Tech. Illustration	666	565	345	1.93	1.6	-4	-1
Technology	612	518	437	1.40	1.4	-0-	-0-
Telecommunications	552	471	634	.87	.9	-0-	-0-
Welding	531	448	347	1.53	1.5	-0-	-0-
Subtotal	14,916	12,711	473	31.53	30.1	-20	-5
Guidance	839	719	699	1.20	1.0	-3	-1
Vocational							
Cosmetology	2597	2214	433	6.00	5.1	-14	-1
Home Economics	1161	990	561	2.07	1.8	-4	-1
Horticulture	140	118	283	.53	.4	-0-	-0-
Police Science	1030	872	620	1.66	1.4	-4	-1
Subtotal	4928	4194	480	10.26	8.7	-24	-3
TOTAL	138,233	117,800	521	265.25	229.7	-522	-196

TABLE D FACULTY PROJECTIONS FOR CAÑADA COLLEGE

SUBJECT AREA	Student Contact Hours			Full-time Faculty		Change	
	Current	Projected	Ratio	Current	Projected	Units	Sections
Business							
Accounting	430	620	430	1.00	1.4	+6	+1
Business/General	663	930	425	1.56	2.2	+10	+3
Commercial Law	126	194	630	.20	.3	+1	-0-
Math/Business	381	542	488	.78	1.1	+5	+2
Shorthand	235	310	258	.91	1.2	+5	+1
Typing	465	659	620	.75	1.1	+5	+2
Subtotal	2300	3255	442	5.20	7.3	+32	+9
Language Arts							
Composition	2183	3062	375	5.83	8.1	+34	+11
Composition (Reading)	1733	2441	468	3.70	5.2	+23	+8
Foreign Language	921	1317	252	3.67	5.2	+22	+4
Journalism	135	194	225	.60	.9	+4	+1
Literature	303	426	481	.63	.9	+4	+1
Reading Skills	430	620	645	.67	1.0	+5	+2
Speech	411	581	338	1.21	1.7	+8	+3
Subtotal	6116	8641	375	16.31	23.0	+100	+30
Fine Arts							
Art	1161	1627	581	2.00	2.8	+12	+4
Drama	437	620	340	1.28	1.8	+8	+3
Music	824	1163	681	2.21	1.7	+8	+3
Subtotal	2422	3410	539	4.49	6.3	+28	+10
Guidance	283	388	283	1.00	1.4	+6	+3
Life Science							
Anatomy	174	233	425	.41	.5	+1	-0-
Anthropology	294	426	736	.40	.6	+3	+1
Bacteriology	90	116	480	.19	.2	-0-	-0-
Biology	1053	1512	609	1.73	2.5	+12	+3
Botany	294	426	482	.61	.9	+4	+1
Forestry	156	232	780	.20	.3	+1	-0-
Genetics	96	116	436	.22	.3	+1	-0-
Health	590	814	885	.67	.9	+3	+1
Zoology	234	349	320	.73	1.1	+6	+1
Life Science	84	116	311	.27	.4	+2	+1
Subtotal	3065	4340	565	5.43	7.7	+33	+8
Physical Ed.	2898	4069	556	5.21	7.3	+31	+39

TABLE D (Continued) FACULTY PROJECTIONS FOR CAÑADA COLLEGE

SUBJECT AREA	Student Contact Hours			Full-time Faculty		Change	
	Current	Projected	Ratio	Current	Projected	Units	Sections
Physical Sciences							
Astronomy	168	233	840	.20	.3	+1	-0-
Chemistry	957	1356	666	1.69	2.0	+5	+2
Geology	222	310	288	.77	1.1	+5	+1
Mathematics	1137	1589	348	3.27	4.6	+20	+7
Physical Science	171	232	789	.21	.3	+1	-0-
Physics	240	349	428	.56	.8	+4	+1
Subtotal	2895	4069	430	6.70	9.1	+36	+11
Social Sciences							
Economics	396	543	495	.80	1.1	+4	+1
Education	88	116	661	.13	.2	+1	-0-
Geography	357	504	830	.43	.6	+2	+1
History	2113	2983	620	3.40	4.8	+22	+7
Philosophy	369	504	615	.60	.8	+3	+1
Political Science	1260	1783	593	2.13	3.0	+13	+4
Psychology	1521	2170	635	2.40	3.4	+15	+5
Sociology	381	543	635	.60	.9	+5	+2
Statistics	45	77	225	.20	.3	+1	-0-
Subtotal	6530	9223	611	10.69	15.1	+65	+21
Vocational							
Home Economics	479	658	424	1.13	1.6	+7	+2
Food Technology	202	310	137	1.47	2.1	+10	+3
Police Science	288	387	480	.60	.8	+3	+1
Subtotal	969	1355	303	3.20	4.5	+20	+6
TOTAL	27,478	38,750	464	59.23	81.7	+351	137

TABLE E FACULTY PROJECTIONS FOR SKYLINE COLLEGE

SUBJECT AREA	Contact Hours	Ratio	Faculty	Units
Business	2604	442	5.9	90
Language Arts	6913	375	18.4	276
Fine Arts	2728	539	5.1	76
Guidance	310	300	1.0	15
Life Sciences	3472	565	6.1	90
Physical Education	3255	556	5.9	90
Physical Sciences	3255	430	7.6	114
Social Sciences	7378	611	12.1	1800
Vocational	1085	300	3.6	54
TOTAL	31,000		65.7	2605